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FEB 16 2010

AMENDMENTS IN THE CLAIMS

1 1. (Currently amended) ~~In a communication network, a~~ A method for
2 resource bundling in a communication network, said method comprising the steps of:

3 a) receiving, at a network policer dedicated to a single user, a plurality of data
4 flows having different class of service (CoS) priority levels, wherein said plurality of data
5 flows comprise a plurality of data packets, said data flows associated with [[a]] said
6 single user having an allocated bandwidth;

7 b) processing said data flows by performing for each data packet of said plurality
8 of data packets a prioritized conformance test to accept or reject said data packet
9 thereby while sharing said allocated bandwidth between said different CoS priority
10 levels in a prioritized manner; and~~[[.]]~~

11 c) responsive to said conformance test, further processing each said data packet
12 and forwarding said processed data flows to the communications network.

1 2. (Currently amended) The method of claim 1, wherein each said data flow
2 includes at least one data packet of a respective CoS priority level, said at least one
3 data packet having a data packet length; and wherein said step of processing ~~includes~~
4 further comprises, for each said data packet, the steps of:

5 i. providing a threshold associated with each said CoS priority level;

6 ii. calculating a tentative credit value for said data packet; and,

7 iii. forming a forwarding decision based on a comparison between said
8 tentative credit value and said threshold associated with said CoS priority
9 level.

1 3. (Currently amended) The method of claim 2, wherein said forming a
2 forwarding decision step further comprises the steps of includes accepting said data
3 packet if said tentative credit value is lower than a CoS threshold, and rejecting said
4 data packet if said tentative credit value exceeds said CoS threshold.

1 4. (Currently amended) The method of claim 2, wherein said providing a
2 threshold associated with each said CoS step further comprises the step of includes
3 providing a CoS threshold that defines a permitted burst size for said CoS priority level.

1 5. (Currently amended) The method of claim 2, wherein said providing a
2 threshold associated with each said CoS step further comprises the step of includes
3 providing a threshold that has a configurable value.

1 6. (Currently amended) The method of claim 2 [[3]], wherein said calculating
2 a tentative credit value step further comprises the step of includes deducting said data
3 packet length from an available credit value.

1 7. (Currently amended) The method of claim 6, wherein said available credit
2 value for a [[jth]] data packet received at a time t_j is calculated using the formula $C_j = \min$
3 $[CBS, C_{j-1} + CIR \times (t_j - t_{j-1})]$, and wherein said CBS is a committed burst size, and
4 wherein said CIR is a committed information rate.

1 8. (Currently amended) The method of claim 6, wherein the step of accepting
2 said data packet further includes comprises the steps of:

3 A. setting said tentative credit value to equal said available credit value;

- 4 B. marking said data packet with a color tag that defines a permitted rate
5 for said data packet; and,
6 C. transmitting said color tagged data packet on the network.

1 9. (Currently amended) The method of claim 8, wherein said transmitting
2 said color tagged packet on the network step further comprises the step of includes
3 transmitting said color tagged packet on a network selected from the group consisting of
4 an Ethernet network and a metro Ethernet network.

1 10. (Currently amended) The method of claim 1, wherein said step of
2 processing further comprises the step of includes processing said data flows using a
3 computer implemented code.

1 11. (Withdrawn) A method for resource bundling in a communications network
2 comprising the steps of:

3 a) at a network policer dedicated to a user, receiving a plurality of data flows
4 comprising a plurality of data packets having corresponding packets lengths, said data
5 flows belonging to at least two different class of service (CoS) priority levels;

6 b) for each data packet of said plurality of data packets, performing a
7 prioritized conformance test to accept or reject said data packet; and

8 c) responsive to said conformance test, further processing each said data
9 packet.

1 12. (Withdrawn) The method of claim 11, wherein said step of further
2 processing includes:

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- 3 i. for accepted data packets of said plurality, forwarding all said accepted
4 data packets regardless of their respective CoS priority level to the
5 communications network; and,
6 ii. for rejected data packets of said plurality, forwarding said rejected data
7 packet to a lower level network policer for further processing,

1 13. (Withdrawn) The method of claim 11, wherein said step of performing a
2 conformance test includes performing a test involving a CoS related threshold
3 parameter and a tentative credit value and performing a comparison between said CoS
4 related threshold parameter and said tentative credit value.

1 14. (Withdrawn) The method of claim 13, wherein said providing a tentative
2 credit value includes calculating said tentative value by deducting said packet length
3 from an available credit value.

1 15. (Withdrawn) The method of claim 14, wherein said available credit for a j^{th}
2 data packet received at a time t_j is calculated using the formula $C_j = \min [CBS, C_{j-1} + CIR$
3 $\times (t_j - t_{j-1})]$, wherein said CBS is a committed burst size and wherein said CIR is a
4 committed information rate.

1 16. (Withdrawn) The method of claim 13, wherein said providing a CoS
2 related threshold corresponding to each said CoS priority level includes providing a CoS
3 threshold that defines a permitted burst size for said CoS priority level.

1 17. (Withdrawn) The method of claim 13, wherein said providing a CoS
2 related threshold includes providing a configurable threshold value.

1 18. (Withdrawn) The method of claim 17, wherein said configurable threshold
2 value is equal at most to a value selected from the group consisting of a committed
3 burst size (CBS) value and an excess burst size (EBS) value.

1 19. (Withdrawn) The method of claim 12, wherein the step of forwarding said
2 accepted data packet to said communications network further includes marking said
3 data packet with a color tag that defines a permitted rate for said data packet.

1 20. (Withdrawn) The method of claim 19, wherein said marking said data
2 packet with a color tag that defines a permitted rate includes choosing a rate selected
3 from the group consisting of a committed information rate ((CIR) and an excess
4 information rate (EIR).

1 21. (Withdrawn) The method of claim 11, wherein said step of processing
2 includes processing said data flows using a computer implemented code.

1 22. (Withdrawn) A system operative to bundle resources in a communications
2 network, comprising:

3 a) a plurality of network policers dedicated to a user, each said policer operative
4 to share a plurality data flows bandwidth allocated to said user in a prioritized manner,
5 wherein said data flows belong to a plurality of different class of service (CoS) priority
6 levels; and

7 b) a corresponding plurality of coloring units, each coloring unit coupled to a
8 respective network policer and used to color data packets of said data flows processed
9 in said respective policer.

10 whereby the system allows said single user to aggregate multiple CoS, hence
11 enabling a low priority CoS to consume bandwidth when a high priority CoS is idle.

1 23. (Withdrawn) The system of claim 22, wherein said operativeness of said
2 network policer to process a plurality of data flows having different classes of service
3 (CoS) is facilitated by:

4 i. a receiver operative to receive incoming data packets belonging to said
5 plurality of data flows, each said data packet having a packet header and
6 a packet length,

7 ii. a determination unit coupled to said receiver and operative to determine,
8 for each said data packet, a respective CoS priority level and packet
9 length,

10 iii. a computing unit coupled to said determination unit and operative to
11 compute a tentative credit value based on said data packet length and on
12 an available credit value, and

13 iv. a comparator coupled to said determination unit and said computing unit
14 and operative to perform, for each said data packet, a comparison
15 between a CoS priority related threshold parameter and said tentative
16 credit value to determine if said data packet can accepted for transmission
17 to the network.

1 24. (Withdrawn) The system of claim 22, wherein said network policer further
2 includes a transmitter coupled to said receiver and said comparator and used for
3 forwarding each said accepted data packet to the network.

1 25. (Withdrawn) The system of claim 22, wherein said tentative credit value is
2 calculated by deducting said packet length from an available credit value.

1 26. (Withdrawn) The system of claim 23, wherein said CoS related threshold
2 parameter includes a configurable threshold value.

1 27. (Withdrawn) The system of claim 26 wherein said configurable threshold
2 value equals at most a value selected from the group consisting of a committed burst
3 size (CBS) value and an excess burst size (BBS) value.

1 28. (Withdrawn) The system of claim 22, wherein said coloring unit includes a
2 coloring mechanism for marking said data packet with a color tag that defines a
3 permitted rate for said data packet.

1 29. (Withdrawn) The system of claim 28, wherein said permitted rate is a rate
2 selected from the group consisting of committed information rate (CIR) and an excess
3 information rate (EIR).

1 30. (Withdrawn) The system of claim 23, wherein said network is selected
2 from the group consisting of an Ethernet network and a metro Ethernet network.

1 31. (Withdrawn) The system of claim 22, wherein said networks policers are
2 cascaded.

1 32. (New) The method of claim 1, wherein said step of further processing
2 each said data packet further comprises the steps of:

- 3 i. for accepted data packets of said plurality, forwarding all said accepted
4 data packets regardless of their respective CoS priority level to the
5 communications network; and
6 ii. for rejected data packets of said plurality, forwarding said rejected data
7 packet to a lower level network policer for further processing.

1 33. (New) The method of claim 1, wherein said network policer is operable to
2 allow low priority data flows to consume unused bandwidth allocated for high priority
3 data flows.

1 34. (New) An apparatus for resource bundling in a communication network,
2 comprising:
3 a network policer dedicated to a single user, said network policer being operable
4 to receive a plurality of data flows having different class of service (CoS) priority levels,
5 wherein said plurality of data flows comprise a plurality of data packets, and wherein
6 said data flows associated with said single user have an allocated bandwidth; and

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7 wherein said network policer is operable to perform for each data packet of said
8 plurality of data packets a prioritized conformance test to accept or reject said data
9 packet thereby sharing said allocated bandwidth between said different CoS priority
10 levels in a prioritized manner; and

11 wherein said network policer is operable to process, in response to said
12 conformance test, each said data packet and forward said processed data flows to the
13 communications network.

1 35. (New) The apparatus of claim 34, wherein each said data flow includes at
2 least one data packet of a respective CoS priority level, said at least one data packet
3 having a data packet length, and wherein, for each said data packet, said network
4 policer is operable to:

- 5 i. provide a threshold associated with each said CoS priority level;
- 6 ii. calculate a tentative credit value for said data packet; and,
- 7 iii. form a forwarding decision based on a comparison between said tentative
8 credit value and said threshold associated with said CoS priority level.

1 36. (New) The apparatus of claim 35, wherein said network policer is operable
2 to accept said data packet if said tentative credit value is lower than a CoS threshold,
3 and reject said data packet if said tentative credit value exceeds said CoS threshold.

1 37. (New) The apparatus of claim 35, wherein said network policer is operable
2 to provide a CoS threshold that defines a permitted burst size for said CoS priority level.

1 38. (New) The apparatus of claim 35, wherein said network policer is operable
2 to provide a threshold that has a configurable value.

1 39. (New) The apparatus of claim 35, wherein said network policer is operable
2 to deduct said data packet length from an available credit value.

1 40. (New) The apparatus of claim 39, wherein said available credit value for a
2 data packet received at a time t_j is calculated using the formula $C_j = \min [CBS, C_{j-1} + CIR$
3 $\times (t_j - t_{j-1})]$, and wherein said CBS is a committed burst size, and wherein said CIR is a
4 committed information rate.

1 41. (New) The apparatus of claim 39, wherein said network policer is operable
2 to:
3 A. set said tentative credit value to equal said available credit value;
4 B. mark said data packet with a color tag that defines a permitted rate for
5 said data packet; and
6 C. transmit said color tagged data packet on the network.

1 42. (New) The apparatus of claim 41, wherein said network policer is operable
2 to transmit said color tagged packet on a network selected from the group consisting of
3 an Ethernet network and a metro Ethernet network.

1 43. (New) The apparatus of claim 34, wherein said network policer is operable
2 to process said data flows using a computer implemented code.

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- 1 44. (New) The apparatus of claim 34, wherein said network policer is operable
2 to:
- 3 i. forward all said accepted data packets regardless of their respective CoS
4 priority level to the communications network for accepted data packets of
5 said plurality; and
- 6 ii. forward said rejected data packet to a lower level network policer for
7 further processing for rejected data packets of said plurality.

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